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WATER INSTITUTIONAL STRUCTURE IN SOUTH DAKOTA*

by

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ABSTRACT: This report describes the development of the institutional structure of water allocation laws in South Dakota. Historical highlights of the legal structure and recommendations for changes are also given.

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to the surrounding area (Wilkinson, 1989). In short, water has multiple purposes: development for economic benefit and appreciation of its aesthetics.

Riparian law is the legal right to use water solely dependent upon the ownership of land and cannot be separated or removed from those property rights. Under riparian law, water may only be used on the riparian tract of land and may not be used, or sold for use, on another tract of land. Conflicts due to competing uses of riparian water are resolved through one of two branches of the riparian doctrine. The natural flow branch is based on the concept that one riparian user may not impair or diminish the availability of water to another riparian user. This implies that all riparian users have the right to have enough water flow by their property as if the river or lake were in its natural state. The second branch is called reasonable use and is more common. Each riparian user is entitled to reasonable use of the water. This takes into consideration the various needs and uses of all riparian water right holders. Conflicts that arise when competing uses exceed the stream capacity are decided in the courts, which determine what is considered a reasonable amount of water for each riparian user (Davidson).

In the water abundant eastern states, the riparian method was effective. There were few shortages and thus few conflicts. The riparian method was not widely adopted in the west, though, because the method was not suited for an arid region. Great expanses of land were not adjacent to any water source. Limiting the use of water to adjacent tracts of land would limit the economic and social development of the region. The priority was simple: survival was most important and water was used with a utilitarian perspective to make money. Another water allocation system was needed which permitted users to

secure a reliable quantity of water that could be transported away from riparian lands.

Prior Appropriation Method

A solution to the problem was an allocation technique not dependent upon land ownership, prior appropriation. A right to use water could be obtained just by diverting water and applying it to beneficial use, defined as an economically valuable use. In contrast to a riparian system of allocation, prior appropriation water may be lost due to a failure to continue its use, and the water may be used anywhere, not only on riparian tracts. In times of shortage, when there were competing uses, the rule -- first in time, first in right -- was applied. This resulted in a rank of seniority. Junior appropriators were the first to lose their rights allowing the more senior users access to their legal appropriation. "Pure" appropriation allowed complete elimination of water from a source if it was necessary to meet the demands of the appropriators.

Prior appropriation was developed to meet the needs of the mining camps during the California gold rush in the 1840's. Water was not an amenity, but an engine. The first users of the water held the right for beneficial use and junior right holders could use what was left. A stream or lake could be drained with little concern for the resulting impact on noneconomic uses of the water. The use of water by appropriators was largely ungoverned in the early days, resulting in the basic premise that decisions on water use were to be worked out by the private water users themselves (Wilkinson).

As western settlement expanded, the prior appropriation doctrine was adopted and assured the first users of water the first right to the available

resources. The water right essentially became a property right. A more economically secure allocation system had been developed for the west.

Water Allocation in Early South Dakota

Immigrants from the east brought their ideas, laws and customs with them. This included the riparian doctrine which had been effective in the more humid east. The riparian system entered the Plains region as common law and was codified in an 1866 statute of the Dakota Territory. It provided that the flow of water could not be dammed or altered so as to "prevent the natural flow" (Dakota Laws, Ch.1, § 256 [1866]; Dak. Code § 255 [1877]). The natural flow branch of the reparian system was used.

Riparian rights were a property right. Statehood soon brought the reasonable use branch into effect. The concept of reasonable use was important to the South Dakota riparian. It limited use to that which could be used beneficially without impairing the rights of other users (Redwood Land & Canal Co. v. Reed; Stenger v. Tharp). As settlement expanded and water resources became strained, people realized that the riparian system was not appropriate in the entire region. Adoptation of the prior appropriation method followed. The appropriation doctrine allowed for the acquisition of water by non-riparian water right holders that could be applied to use apart from the riparian tracts of land.

South Dakota added the prior appropriation system to its existing riparian law, creating a dual legal system of water allocation. The prior appropriation method became a necessity in South Dakota upon settlement of the western half of the state. In South Dakota, the Missouri River serves as the dividing line between the more arid and the more humid parts of the state. South Dakotans, after dealing with the ambiguities and conflicts of a dual

water allocation system, later developed a plan to incorporate the vested rights of the riparian system into an appropriation system.

The riparian and appropriation methods of allocation were applicable to all surface waters and all subsurface water that formed a definite and chartable stream. Ground water that did not form a definite and chartable stream was considered the absolute property of the land owner (Davidson).

Current System of Water Allocation in South Dakota

In 1955, the South Dakota Legislature passed a major water act which transformed the state's water law. All water was declared the property of the people. The right to use this water became subject to the appropriation statutes. All water was to be applied to the fullest beneficial use. Conservation was to be practiced when in the context of reasonableness and beneficial use. Mining, withdrawal of a quantity of water greater than the source's estimated yearly recharge, was not permitted. Thus, the state was to hold its water in trust for the people's use and benefit. Usufructuary rights gave users of water the opportunity to acquire a right to use water under one or both of the established doctrines of water allocation. The state held the right to determine the use of its water, provided that the regulation was reasonable and not arbitrary, and that the approved uses were within the general welfare of the public.

The concept of beneficial use became the basis, measure, and limit upon which all allocation was to occur. Vaguely defined in the laws, beneficial use meant the use of water in a manner that was reasonable, useful and beneficial to the appropriator, and, at the same time, consistent with the public interest and the best alternative utilizations of the water (Davidson). Water for domestic purposes was of the highest priority, taking precedence

over all other appropriative rights (SD Compiled Laws Ann. § 46-1-5[1]). The right of the state and the municipalities to acquire water rights was to be protected to the fullest degree possible to maintain current and future uses (SD Comp. Laws Ann. § 46-1-5[2]).

A riparian owner after 1895, who had applied the riparian water right to a beneficial use within three years prior to July 1, 1955, had the right vested for continued use. This prevented the accrual of riparian rights that had not been used beneficially in the three years prior to the enactment, while permitting the active users the opportunity to maintain their right to beneficial water use (SD Compiled Laws Ann. § 46-1-6[6]).

Today the same system of water law exists. Several adjustments within the system have been made to more appropriately reflect current water use conditions. One such change allows the transfer of some water rights. Transferability is important to meeting the demands of future generations of water users.

Water Rights Transfers

The need to move water resources to new uses and use sites is largely related to the demand-supply relationship of available water resources. Having created the opportunity for almost free acquisition of land in the west with the Homestead Act of 1862, the United States Congress passed the Reclamation Act of 1902, authorizing the development of large scale water development projects intended to irrigate the homesteaded west. Now, almost a century later, the water supplied through the U.S. Bureau of Reclamation accounts for about 15 percent of western water supplies.

The literature pertaining to water rights transfers and water markets is largely a derivative of the presupposition that prior appropriation is the

only allocation method in use and that the appropriative right holds inherent property right responsibilities and benefits. These assumptions are probably a practical reflection of the historical and political influences on water allocation. A large quantity of the written material pertains to the application of the theories of resource economics on the real world problems of hydrology. Problems relating to the economically efficient use and distribution of natural resources, the assignment of property rights, the management of externalities, and the sociological conditions facing the aforementioned, are the primary theoretical concepts discussed in the literature. The impact of natural resource use on economic development is not a major part of the literature, probably as a result of the incalculable relationship between water use and resulting economic benefit.

The motivating reason for the market transfer of water rights includes a mutual perception by both the buyer and seller that the water right can be used to achieve greater economic returns in the new location, season, or purpose of use. Three factors are imperative in the decision to make a transfer: the seller must receive a price that is at least as great as the return that he is giving up and covers any transactions costs incurred with the transfer process; the buyer must expect to receive at least as high a return on the new use of the water right as he is paying, including the transactions costs; and lastly, the buyer must perceive that purchasing a water right is an economically attractive method of obtaining water in contrast to other methods, such as direct appropriation by the state or a water distribution organization (Colby).

Interest in water transfers has been growing in the 1980's. Rapid increases in the population and economic growth are the primary reasons behind

significant changes in the economy. Although the agricultural sector uses the most water, the nonagricultural sectors employ most of the work force and create the greatest income. These sectors now compete for land and water resources that once were largely agricultural. The reduced availability of new appropriable water and increased demand for water make transfers more beneficial and more necessary (Colby). Water rights transfers are necessary if water is to avoid being frozen in initial patterns of use.

Impediments to Transfers

Although there are justifiable reasons to transfer water, major impediments exist that restrict the mobility of water. Immobile resources limit the economic benefits that result from their use. One impediment is transactions cost. If the cost of making the transfer is so great as to remove the profitability of the transfer, then the incentive to transfer disappears. Transactions costs come in various forms including the cost of searching for a trading partner; identifying legal and hydrologic characteristics of the water right, such as the priority, the amount of water, the time of use, and the return flow obligations; the process of negotiating the price and arranging financing, as well as any other conditions of the transfer agreement; and meeting state laws and transfer approval procedures (Colby). As these costs increase, the market becomes less able to allocate water to new, high valued uses. Therefore, reduction of transfer impediments is necessary to maximize the efficient use of water resources. A closer look at several categories of impediments follows.

Injury to Others. The knowledge that transferring water rights could impair other appropriators has long been established. Statutory law has been

used to protect other users, particularly junior appropriators. Senior appropriators are protected by their seniority (Kidd v. Laird).

The most common injury to other users comes in the form of return flows. As almost all uses of water are not completely consumptive, some water is returned to the system for later use. Primarily associated with irrigation, return flow problems occur with changes in the point of diversion, changes which cause the return flows to reenter the stream at a different point, stream conveyance losses, a change in the time of year or length of diversion and use, and/or a change in quality of returned waters (Gould, 1989). Return flows are thus externalities that upstream appropriators create and downstream users capture (Burness and Quirk, 1980).

Although third party effects can block a transfer, conditions are often imposed to mitigate the effects, including reduction of the diversion rate, limitations on the total quantity diverted, and compensation for stream conveyance losses (Gould, 1989). To determine and mitigate third party effects, South Dakota requires administrative approval before any transfer occurs. The administrative agencies can usually determine third party effects better than judicial proceedings because of their more specialized training (Gould, 1988). Informal negotiations with experts are much quicker and less expensive than the judicial system. Compromises and compensation can occur without a court battle and the transfer can usually take place earlier so as to allow the new, higher valued use to obtain the water and put it to use.

Several techniques have been developed to expedite the transfer process. The use of consumption quantities as the transferable quantity of water theoretically eliminates return flow problems. This amount of water is removed from the hydrologic system through its current use, so if it is

removed and used elsewhere, downstream appropriators are unaffected as they still receive their return flow water. In the cases where water is exported to another basin, the importing firm should retain title to their return flows for later use or transfer. This eliminates the problem of identifying "free riders", or downstream users who collect return flows without compensating the importer, and provides incentive to import water (Burness and Quirk).

Problems arise when the actual consumption is different than the calculated rate. These problems occur when there are changes in the timing of use, the water quality, pattern of use, and in the big picture, the need to redefine all rights to reflect consumption quantities (Gould, 1989).

The development of institutionalized water systems is another technique to eliminate the problem of return flow effects. A system of transferable shares entitles the holders to a specified portion of the water available to a district. Risk can be reduced by purchasing the district-wide transferable shares. Problems with third party effects are eliminated because the district retains all of the return flows (Howe, 1986). Another alternative is mutualization. All right holders in a particular geographic area or hydrologic system turn over their individual water rights to a mutual water corporation in exchange for shares entitling them to a specified quantity of water. As with the water district, shares can be transferred among members without concern for third party effects because the mutual corporation essentially owns the return flows within the area. Problems arise, though, when trying to convert prioritized appropriative rights, holding varied risk aversion values, to fungible shares (Gould, 1989).

The use of temporary transfers is a valuable way to maximize the flexibility and efficiency of water use. For example, if a municipality needs

water in a drought year and a local irrigator with a senior right is willing to transfer the water for compensation to the municipality, then the municipality can obtain the necessary water for the drought period if the municipality has sufficient capital in its budget and the necessary conveyence facilities are in place. The municipality does not need to acquire a perpetual source of water, and the irrigator is compensated at a rate greater than the alternative from irrigation use. As a result, there is one farmer out of production, yet fully compensated; the cost to the municipality to obtain water is less than if seeking a perpetual source; and society benefits by permitting continued farming in the nondrought years (Gould, 1989).

Public Interest. Public interest criteria are becoming more important in determining whether a transfer will occur, or what conditions a transfer must meet. The concept of public interest encompasses the interests of nonparticipants in the transfer. As a result of a water transfer, there are potential direct effects such as destruction of fish and wildlife habitat and a loss of recreational opportunities. Potential indirect effects are a decline in the local economy, the erosion of the tax base, or a general societal disruption that may accompany the transfer of agricultural water to other uses in a different area (Gould). If it is within the public interest, almost anything regarding water use can be done (Davidson, personal communication).

The effect of the implementation of public use criteria on market transfers is one which frequently increases the risk and uncertainty for the market participants, particularly if public interest is not well defined as it pertains to the situation. As a result, mitigation of public interest questions is costly, and thus increases the transactions costs. The resulting

decrease in market activity, although inefficient economically, is desirable as a technique to protect the public interest values in water (Colby).

South Dakota requires water officials to consider the public interest when deciding whether to issue an initial appropriation of water permit. With regard to water transfers, the public interest is most defined in case law (See Clyde for examples). In most transfer states, though, the transfer statutes indicate that a transfer shall be approved if it does not impair the rights of other appropriators. This suggests that consideration of public interest criteria is unnecessary in transfer proceedings (Gould, 1989).

In recent years, the scope and use of the public interest statutes has expanded to include environmental policy (Gould, 1989). One such example is legislation in several western states that allows state agencies to purchase or apply for water rights (Colby; Gould, 1989). This allows the state to protect the environment through the public trust doctrine. Additionally, the use of public interest criteria to either disallow or place conditions on transfers to protect the environment, although controversial, is being considered more often (Colby; Gould, 1989; National Audobon Society v. Superior Court). Future considerations will likely be less controversial as government's function of environmental protection becomes more established and with the realization that environmental values that cannot be included in the marketplace must be treated specially and included in the transfer process (Gould).

As an internalizing agent, public interest statutes can reflect environmental values by requiring those involved in the transfer to bear the "hidden" costs associated with the environmental impact of water transfers. Several examples include requiring buyers to provide pest control on retired

agricultural lands, or requiring financial compensation and minimum stream flows to protect fish and wildlife (MacDonnell, et al). Although these conditions increase transactions costs, the buyers and sellers are forced to consider and internalize the external effects of the transfer (Colby).

Property Rights. Property rights are an essential tool in establishing water rights. They "define and limit the rights of members of society" with respect to the property, allowing "right holders to form secure expectations regarding benefits stemming from their rights" (Colby). In the case of water rights, the actual property owned is the administrative right to appropriate water. Water rights define rights of access to specific water resources and define the duties of other claimants and water users with respect to the right holder (Colby).

In South Dakota, a water right is more an administrative right, where extensive state regulation limits the mobility of the right and the private property benefits that result from private market activities. When establishing market criteria, the degree of privatization of the water right is key, defining the primary extramarket influences on transfers. It is these effects that reduce the market's efficiency and cause transaction barriers.

Conservation

Conservation of water includes both efficient use and preservation of available resources. Market proponents suggest that "beneficial use" and "waste" terms are misconceived as essential to water allocation. A market that has well defined and fully transferable water rights eliminates waste and insures beneficial use. Economic self interest prevents waste and encourages conservation and resalvaging of water, thus improving the efficiency of water use (Gould).

The beneficial use doctrine implies an obligation on the part of the water right holder to use the water beneficially. Forfeiture and abandonment laws make retention of the water right subject to use within prescribed time periods. If the water is going unused and a threat to forfeiture or abandonment exists, the user has an incentive to sell or lease the water rights (Colby).

Efforts to preserve instream flows are possible if defined as a beneficial use. Direct appropriation or market purchase of water rights for preservation of such economically difficult-to-value uses are two ways states can overcome extramarket influences (Colby).

As the need to meet the demand for water intensifies, pressure to overrule the previous cases and statutes which prohibit the transfer of salvaged water will increase. Volunteers will not volunteer if they do not receive a return for their efforts (Gould, 1989). State laws that encourage water conservation by allowing the sale or lease of such waters could promote more efficient water allocation by making conserved water available for use. However, improved irrigation conservation could impair downstream users as return flows are reduced (Colby).

The use of sewage effluent, a reliable but frequently unused water supply, is another conservation technique. Laws regarding rights of ownership and use of sewage effluent are uncertain throughout much of the west, and thus cause a legal constraint to use (Clyde).

Interstate Transfers

The declaration, by the U.S. Supreme Court in Sporhase v. Nebraska in 1982, that water is an article of commerce, is the single most important factor in loosening restrictions to interstate water transfers. Overruling

western states' "embargo statutes" that restricted water use to within the state borders unless legislatures approved, the Supreme Court ruling forced states to either allow interstate transfers or develop a more appropriate conservation technique.

By creating "impermissible burdens on interstate commerce", the embargo statutes created an adversarial relationship between states and thus, was contrary to the national interest. Prior to the Court's decision, reciprocity agreements between states were tried, but were largely unsuccessful because of inabilities to create truly reciprocal arrangements (Clyde).

States still can restrict the exportation of their water. New appropriations may be dependent upon retaining the return flows within the river basin so as to protect the rights of downstream users. Also, there is a legal precedent for states to limit access to their resources and markets if the state is a market participant (Reeves v. Stake). In short, the restrictions are more justifiable in terms of hydrologic management and market participation rights.

Another barrier to interstate transfers is the absence of interstate water compacts on some major river systems, including the Missouri River system. Without a decree or compact, whenever a state proposes a large development project on such a river system, downstream states will challenge the proposal on the grounds of impaired rights (Thorson). Such conflicts are expensive to litigate, and thus increase the risk and cost of large development projects.

Indian Water Rights

The Winters Doctrine of 1908 (Winters v. United States) conferred water rights to Indian reservations, entitling the Indians to sufficient water to

carry out the purposes of the reservation. The priority date of the water rights was to be the date the reservations were established. Although the doctrine was originally intended for irrigation purposes, recent court decisions suggest that upon quantification, reserved water can be used in other uses (See Arizona v. California [1979]). There is no definitive decision, though, on the subject of use of Indian water rights off-reservation (Gould).

Lacking in the economic resources to develop the water rights, the Indians could benefit greatly if they were allowed to sell or lease water rights to off-reservation users. The water rights are valuable, being of high priority, but since Indian use would typically lead to a drop for drop reduction in use by other appropriators, political pressure to restrict transferability remains. The "mere possibility of transfer could spur state efforts to increase transferability of non-Indian rights to reduce the pressure to consider transferring Indian rights" (Gould).

Ratification of the Fort Peck-Montana Compact by the Montana Legislature in 1985 suggests that the indefiniteness of Indian water rights is ameliorating. Under the Compact, the tribes have been given the right to divert a quantified amount of water each year. Transfer of water to non-Indians, either on or off-reservation could occur, limited only by the restriction that the water may not be permanently alienated by the tribes. The tribes would be guaranteed the right to transfer up to 50,000 acre feet per year for off-reservation consumptive uses. The amount could increase if the state increases its own marketing authority. Also, the Compact asks Congress to specifically ratify tribal authority to allow the marketing of water (Thorson). The development of Indian Water Rights agreements in South

Dakota might possibly increase the availability of water resources (Thorson). The economies of the reservations may benefit, as one of their most valuable natural resources is put to use.

Transfers of Water Rights in South Dakota

Since 1962, three transfers of water rights involving a change in use have occurred in South Dakota. Two are transfers of irrigation rights to a municipality and one is the transfer of irrigation rights to a rural water system. New uses are primarily domestic. These transfers are important in demonstrating that regional shortages, based on the quantities supplied and demanded, exist, and that a transfer can move water to a higher valued use reducing the negative effects of a regional shortage.

The first transfer occurred in 1962. The city of Belle Fourche transferred an irrigation water permit from city owned farm land to the municipal system. The city faced the responsibility of providing water to a growing community, including nearby missile bases (City of Belle Fourche).

In 1987, Homestake Mining Company transferred an irrigation water right to the City of Spearfish for use in the municipal system. The diversion point was changed and withdrawals were limited to the period April 1 through October 31 as per the previous irrigation permit (Homestake).

The third transfer involves a private irrigator of rural Brookings County, South Dakota who transferred approximately 40 acres of land, the water rights to such land, and the water rights of an adjoining 23 acres, to the Brookings-Deuel and Kingbrook Rural Water Systems. The 23 acres, henceforth without irrigation rights, were placed in the federal Conservation Reserve Program. Use of this water by the rural water system is limited to withdrawals during the period April 1 to September 30, as per the previous

irrigation permit. This transfer was feasible through SDCL § 46-5-34.1, allowing transfers of irrigation water rights to municipalities or rural water systems (Brookings-Deuel).

CURRENT WATER ALLOCATION LAW

The key features of the current water allocation laws in South Dakota are the preferences among uses and the change in use or place of use. These features reflect the societal guidelines by which water resources are regulated. Laws allowing for extensive mobility of water resources, with well defined restrictions to such movement, achieve maximum benefit from the resource's use.

Features of South Dakota Law

Allocation Method

The people of South Dakota own the waters found within the state's boundaries. This water is available for use by application through appropriation methods (SDCL § 46-1-3). Appropriative rights granted since March 7, 1907, are in full effect and their respective priority dates are retained (§ 46-5-4). Seniority of the water right determines priority during times of scarcity. Appropriative rights and vested rights constitute the water rights in South Dakota.

The term "vested right" means, for surface water:

"(1.) The right of a riparian owner to continue to use water actually applied to any beneficial use on March 2, 1955, or within three years immediately prior to that date to the extent of the existing beneficial use made of water;

(2.) Use for domestic purposes...;

(3.) The right of a riparian owner to take and use water for beneficial purposes if the riparian owner was engaged in the construction of works for the actual application of the water to a beneficial use on March 2, 1955, provided the works were completed and water was applied to use within a reasonable time thereafter;

(4.) Rights granted before July 1, 1955, by court decree;

(5.) Uses of water under diversions and applications of water prior to the passage of the 1907 water law and not subsequently abandoned or forfeited" (§ 46-1-9).

As for groundwater, the term "vested rights" means:

"(1.) Beneficial uses of groundwater under diversions and applications of water prior to February 28, 1955;

(2.) The right to take and use groundwater for beneficial purposes where an owner or lawful agent was engaged in the construction of works for actual application of water to a beneficial use on February 28, 1955, provided such works shall be completed and water is actually applied for such use within a reasonable time thereafter (§ 46-6-1).

Preference Among Uses

The domestic use of water is the highest priority in South Dakota. No permit is required.

Administration of Water Resources

A water management board regulates and controls the development, conservation, and allocation of all state waters according to the principles of beneficial use and priority of appropriations (§ 46-2-11). The chief engineer acts as adviser to the water management board in all matters

pertaining to the distribution and conservation of waters of the state (§ 46-2-3).

Change in the Use or Place of Use

By obtaining permission from the water management board, an appropriator may change the use of a permit through amendment on all permits, other than those for irrigation (§ 46-5-32). Priority is retained upon amendment of the permit. The rate of diversion and the volume of water appropriated may not be increased by amendment to the permit. An amendment may not impair existing rights (§ 46-5-30.4).

A transfer of irrigation rights apart from the land to which it is appurtenant may occur if the transfer is for domestic use or use within a water distribution system. The transfer may be a part or the whole of the right, must be approved by the water management board, and may not be detrimental to existing rights having a priority date before July 1, 1978, or to individual domestic users (§§ 46-5-33, 46-5-34.1)

Unique Features

South Dakota law prohibits "mining" of groundwater. Mining occurs when a quantity of water is pumped annually from a ground aquifer that is greater than the annual recharge to that aquifer (§§ 46-2-14 and 46-6-3.1). An exception to this rule is made for water distribution systems.

A water use control area may be declared if the holders of the rights to 50 percent or more of the total diversion of water under permit petition the water management board and it is approved. Approval by the board shall occur if it is within the public interest, if it is necessary to equitably apportion the available water supplies for use among the water right holders, and if it is feasible. Irrigation, conservancy, and water development districts are

other methods of promoting conservation, development, and good management of water resources.

Summary

The water allocation laws of South Dakota allow for economic benefit from the use of water. Restrictions on the transfer and the mining of water resources, and the establishment of water use control areas, are examples of conservation and protection of the state's water resources from exploitation.

Protection of water resources through the prohibition of mining is a good long run conservation tool, as is the establishment of water use control areas. Given that these methods of conservation are worthy, restrictions on the transfer of water rights limit the mobility of the water resources, thus impairing the use of the resource in its highest valued use.

South Dakota defines its water supply as being owned by the people of the state, available for appropriation for beneficial use. Domestic use is the highest valued use and superior to any senior appropriation. Public interest criteria for appropriation are used in South Dakota. South Dakota has a state supervised governing board that make all final decisions (except for a few exceptions, where the state legislature so decides) on water rights issues.

Third party protection and public interest criteria are significant factors considered by the state water agencies in determining whether such transfers may occur. South Dakota allows only for the transfer of irrigation rights for domestic use or use within a water distribution system. South Dakota prohibits mining of water resources.

SUMMARY AND RECOMMENDATIONS

Circumstances regarding water use in South Dakota are changing. Within the last several years water shortages have occurred in the two largest urban communities and a vast agricultural region. South Dakota laws do not allow for mobile water rights except the transfer of irrigation rights to a municipality or to a rural water system. This exception is the most important type of transfer because it represents the largest supply of water and the most highly valued use of water. Even greater flexibility in water allocation will be necessary in the future as the demand for water continues to increase and supply remains relatively inelastic due to economic and technological infeasibility.

Within South Dakota the vast physical supplies of water can meet the expected demands for water for years to come if economic and technological limitations are overcome. Until this occurs, the uneven distribution of supplies and varying quantities and qualities of water will persist in restricting the amount of water available for use.

The quantity of water supplied can be increased through water development but limitations exist, particularly on large scale developments. The quantity of water demanded can be reduced by eliminating waste in current uses. These answers go to the heart of the problem: increase the available supply and decrease the demand, and shortages will occur less frequently. Yet, for circumstances where such supply and demand changes are expensive or impossible, alternatives are necessary. The use of economic principles to ration water may provide such an alternative.

Recommendations

The most important needed changes in the water laws and policies lie in increasing the mobility of the water rights and in reducing the impact such changes might have on third parties. The following are specific recommendations that, if implemented, would improve the economic benefits of water use in South Dakota.

(1.) The use of consumptive quantities as the transferable amount of water.

(2.) The use of trial transfers where injury to third parties is unlikely but difficult to predict.

(3.) The development and dissemination of a water transfer guide that includes information and resources regarding water transfers.

(4.) The development of institutionalized water systems to help eliminate problems of return flows. Conservancy districts and water mutual organizations are examples.

(5.) The use of temporary transfers to meet short term water needs of municipalities. These transfers should revert back to the original use upon the end of the term period, should be renewable, and should amount to the consumptive quantity.

(6.) Public interest criteria should be defined more specifically.

(7.) Both original appropriations and transfers should be subject to well defined public interest criteria.

(8.) Protection of the public interest should be a responsibility of the state as the administrator and regulator of the state's water.

(9.) Water for public use, i.e. public recreation waters and instream flows, etc., should be set aside and prioritized by the state without

cost. The state of South Dakota has the legal right to determine the appropriate use of water and to represent the interests of the citizens of the state at minimal cost. Public interest criteria can be used and have been proven effective in protecting the environment.

(10.) Public interest should be used to internalize the costs of transfers and thus force transferrers to bear the burden of the implicit costs associated with the environmental impact of water use.

(11.) Forfeiture and abandonment laws should be strictly enforced to keep water in use.

(12.) Instream flow maintenance should be defined as a beneficial use as it is an inexpensive and effective conservation method.

(13.) Salvaged water and sewage effluent should be used, as long as by doing so, downstream users are assured of return flows. The right to use, sell, or lease such water should be encouraged.

(14.) Rotation of water rights among a small group of users should be encouraged.

(15.) Embargo laws, or those laws requiring the state legislature to approve large scale interstate transfers should be analyzed. The effect that leaving them intact has on potential large scale allocations should be determined.

(16.) South Dakota should upgrade its efforts to act as a participant in the marketing of water. As a market participant, legal justification exists supporting a regulatory role over the state's water with regard to interstate transfers. Encouragement of interstate transfers that promote the public interest of South Dakota is necessary.

(17.) A compact between the Missouri River states is necessary and should be strongly encouraged.

(18.) South Dakota should pursue an agreement with the Indian tribes within the state regarding water rights. The agreement should include the right for the Indians to transfer water off reservation lands.

Current water allocation institutions in South Dakota have been satisfactory for the majority of recent allocations. If South Dakota expects to maximize the benefits from the use of its water it must increase the mobility of its water rights. Greater definition of transfer related laws and policies must follow as greater specificity of water rights is necessary in order to protect other water users.

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